

LISTING OF CLAIMS:

1. (Currently Amended) A control system comprising:

a signal processing unit;

a computation processing unit; and

a monitor processing unit,

wherein the signal processing unit, the computation processing unit, and the monitor processing unit mutually communicate data,

wherein the signal processing unit sends, to the computation processing unit and the monitor processing unit, signal data that indicates at least one of a state of a switch and a detection result of a sensor,

wherein the computation processing unit

executes a predetermined computation ~~using at least one of~~ based on the signal data sent by the signal processing unit, ~~signal data sent by other than the signal processing unit, and internal data,~~ and

then sends (i) operation command data to an output processing unit for activating an operation command target including at least one of an actuator and a load, and (ii) operation condition data, which indicates that condition where an operation command trigger for activating the operation command target has been effected, to the monitor processing unit, ~~and wherein the operation command data controls the output processing unit for activating at least one of an actuator and a load, wherein the operation condition data indicates that condition where an operation command trigger that activates an operation command target is effected~~ corresponding

to the signal data based on which the computation processing unit has executed the predetermined computation,

wherein the monitor processing unit receives the signal data sent by the signal processing unit and stores the received signal data, and

wherein the monitor processing unit determines whether abnormality is present, by comparing the stored signal data with the operation condition data received from the computation processing unit.

2. (Original) The control system according to Claim 1,

wherein the operation command trigger is one of a plurality of operation command triggers,

wherein the computation processing unit sends, to the monitor processing unit along with the operation condition data, operation trigger data indicating the operation command trigger, and

wherein the monitor processing unit determines whether abnormality is present by additionally considering the operation command trigger received from the computation processing unit.

3. (Original) The control system according to Claim 1,

wherein the signal processing unit sends, along with the signal data, timing information that specifies sending timing at which the signal data is sent,

wherein the monitor processing unit receives the timing information sent by the signal processing unit along with the signal data and stores the received timing information with correlating the timing information with the signal data, and

wherein the monitor processing unit determines whether abnormality is present by additionally considering the stored timing information.

4. (Original) The control system according to Claim 3,

wherein the timing information includes at least one of a counter value, a random number that is not repeatedly used, and a time when sending is executed.

5. (Original) The control system according to Claim 1, wherein the computation processing unit generates a data frame that includes the operation command data for the output processing unit and the operation condition data for the monitor processing unit and sends the generated data frame to the output processing unit and the monitor processing unit.

6. (Original) The control system according to Claim 1, wherein, after the monitor processing unit determines whether abnormality is present, the monitor processing unit stores a result of determination along with information that is used for the determination.

7. (New) A control system comprising:

a signal processing unit configured to generate signal data indicative of states of a plurality of signal systems, the plurality of signal systems including at least one of a switch and a sensor;

a computation processing unit coupled to the signal processing unit, the computation processing unit configured to execute a predetermined computation based on the signal data received from the signal processing unit and generate (i) operation command data to be sent to an output processing unit, the operation command data for activating an operation command target including at least one of an actuator and a load, (ii) operation condition data indicative of a condition which triggered the signal processing unit to generate the signal data; and (iii) operation trigger data indicative of which of the plurality of signal systems changed state;

a monitor processing unit coupled to the signal processing unit and the computation processing unit, the monitor processing unit configured to store the signal data generated by the signal processing unit and determine whether an abnormality is present by comparing the stored signal data with the operation condition data and operation trigger data generated by the computation processing unit.